

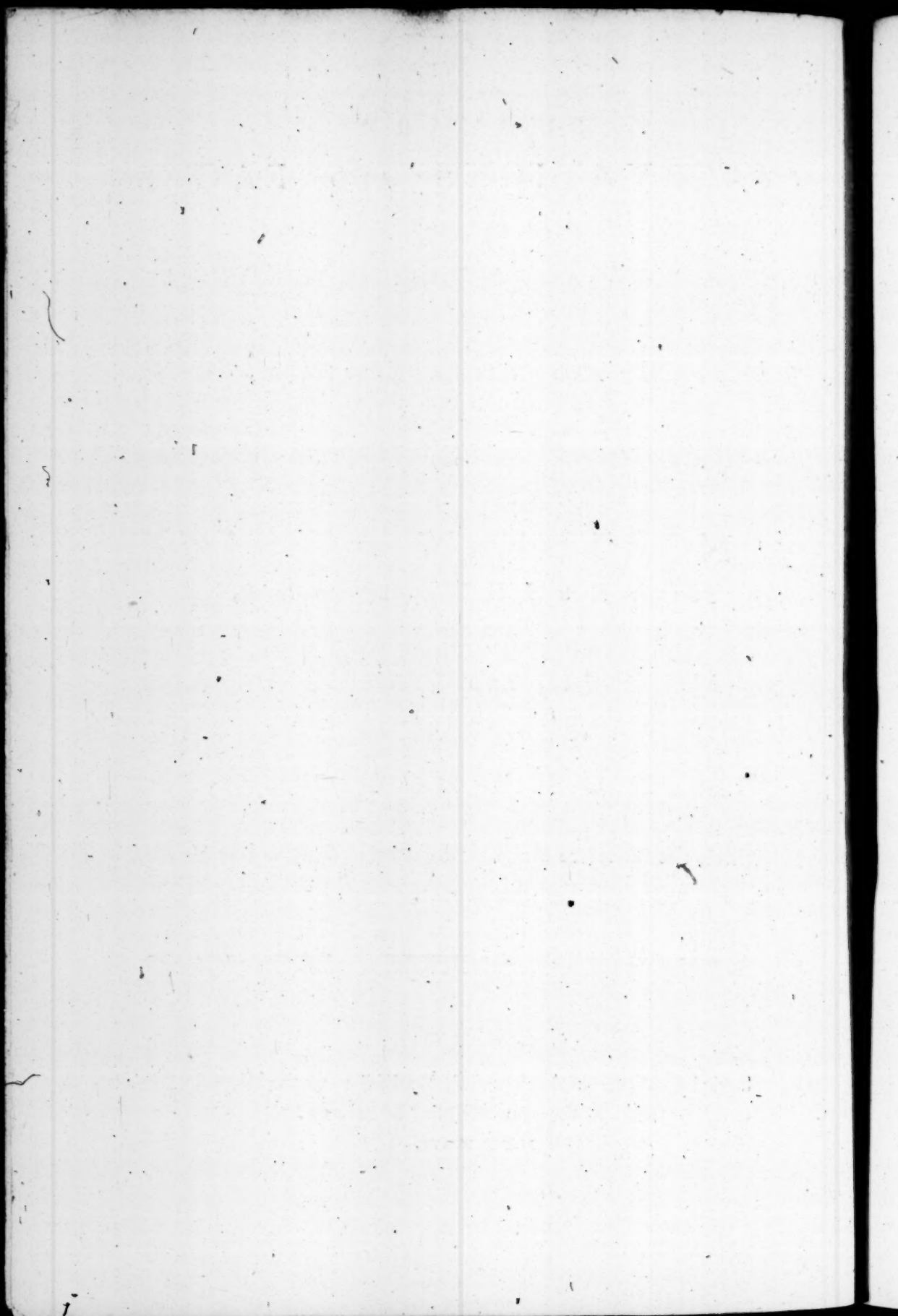
3

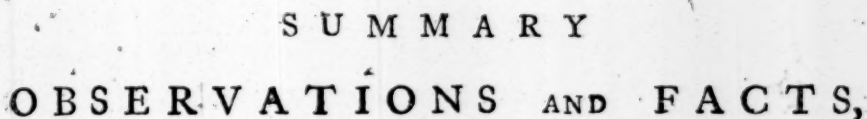
S U M M A R Y
O B S E R V A T I O N S A N D F A C T S
C O L L E C T E D
F R O M L A T E A N D A U T H E N T I C A C C O U N T S
O F
R U S S I A N A N D O T H E R N A V I G A T O R S ,
T O S H O W
T H E P R A C T I C A B I L I T Y A N D G O O D P R O S P E C T O F S U C C E S S
I N E N T E R P R I S E S T O D I S C O V E R
A N O R T H E R N P A S S A G E
F O R V E S S E L S B Y S E A ,
B E T W E E N
T H E A T L A N T I C A N D P A C I F I C O C E A N S ,
O R N E A R L Y T O A P P R O A C H
T H E N O R T H P O L E ;
F o r w h i c h t h e O f f e r s o f R e w a r d a r e r e n e w e d b y a l a t e A c t o f
P a r l i a m e n t .

L O N D O N :

Sold by JOHN NOURSE, Bookseller to the KING,
and to the BOARD of LONGITUDE.

M.DCC.LXXVI.





Shewing the Prospect of Success

In Attempts to discover

A NORTHERN PASSAGE
TO THE
PACIFIC OCEAN.

THE late renewal of an offer of reward for discovering a Northern Passage into the Pacific Ocean, seeming to call upon every Person, conversant in the Subject, to contribute to its performance consistently with the grand view of the Legislature; the Writer of these pages thinks it a duty to bring in his mite, and hopes to prove from authentic facts and practical observations, that a successful event may confidently be expected from a well-conducted enterprise.

It is generally known, that the first Voyage to the East Indies was made some time about the end of the fifteenth century, round by the Cape of Good Hope. That track ever since followed, has often been attended with danger and distress, from violent storms raging in those seas, more or less throughout the

year; from a scarcity, sometimes a want of good provisions, particularly of fresh water; and from diseases contracted in voyages of the length of many thousand miles, in a state of confinement, through climates subject to vicissitudes which frequently prove injurious to the human frame. The nations that have suffered most from those evils, have been induced to encourage Navigators to find out an opposite route, by the North, not subject to such calamitous incidents. The English nation stands forward in this, holding out rewards to those whose attempts shall be most fortunate; and it is the design of these sheets, to assure the Adventurers there are not any of the already enumerated mischiefs to apprehend in a well-concerted undertaking.

From the first attempts of a Discovery through the Northern Seas, it was averred by able Navigators, that storms were unknown beyond the latitude of 70 degrees, excepting near the two Greenlands, Spitsbergen, and some other coasts in the like situation: and that winds have so little force in higher latitudes, even when contrary, as not to impede Navigation. But from subsequent accounts of injudiciously conducted enterprises, a prejudice arose, that Northern seas were full of ice, and that engaging in them was wilfully encountering the utmost dangers. An opinion so erroneous, having misled several, who, once undeceived, would have known how to avoid difficulties, must no longer be allowed to exist, but be removed as a real obstacle to the free entrance into that space where the important discovery is to be made.

The storms not confined to particular coasts, it is alledged in this belief, accumulate ice as high as mountains, which breaking loose, and impetuously meeting again, do at one time crush a ship, and at another form a spacious bay capable of containing

taining thirty or forty vessels. These dangers, whether exaggerated or imaginary, do not, it may be objected, enough affright those who fit out ships for the Whale Fishery, to lessen the number sent, which annually increases, as it did this very last year. But the obvious answer to this will be, that they are not destined to work through the ice to the Pole; and that they know how to get back with the profitable return that allures them to venture in.

The Northern Sea bears various aspects in different quarters: to the West of *Spitsbergen*, and South of *Nova Zembla*, it seems full of ice; between *Spitsbergen* and *Nova Zembla*, it bears a better appearance, having only some floating shoals; and in the open space to the North and East of both, it looks far more pleasing, none being found there. Not the least mention is made of ice met with in that sea, by the two Dutch ships that proceeded so far North in the year 1570. They found the Polar Ocean calm, deep, and free. Their pursuit for a discovery was earnest, but defeated by the jealousy and powerful influence of the East-India Company in Holland. An account of the matter is published among the Transactions of the Royal Society: and a more ample state of the case is found in the writings of the famous *Vossius*, with the memorials on both sides. The narrative of those Navigators is confirmed by the testimony of the renowned Admiral *Heemskerke*, and corroborated by the report of Captain *Barents*, one of the ablest sailors of that time; he made several voyages to the North, bent upon making discoveries, and died at *Nova Zembla* in 1597, having explored its Southern coast through the ice, gone about its Eastern part, and convinced himself, as he declared in his last moments, that a passage would certainly be found when attempted from the most Northern part

of that island. His opinion rested partly upon the following facts: that on the 22d of February, at the distance of five or six leagues from land, he saw the sea open in several parts to the East; and that on the 9th of March, he found it wholly open to the North.

In the years 1594 and 95, *Lynschoten* prepossessed with the mistaken notion, that the nearest advance to the Pole was the most certain and inextricable entanglement in the ice, sought a passage through the straits of *Waygat*, where he got into the embarrassment he meant to avoid: the danger was great in the narrowest part, and toward the *States Island*. The floating ice brought to the lower seas, by the general current from the East, has made others believe, that an open sea, like an ocean, would be found in that quarter, to the North East. The *Samoyedes*, old inhabitants of the Northern coast of Asia, well acquainted with these facts, inform us, that the Great Sea never is frozen, not even in winter; but that the Lesser Sea, which receives fresh water from the *Oby* and other great rivers of Siberia and Tartary, does produce ice regularly.—That from the middle of August forward, for the space of six weeks, there is none at its entrance, though before that time it be quite full. *Lynschoten* in his dread of the accumulated masses he saw, forming islands and mountains, conceived them more than a hundred years old, and believed that they never melted down.

The Russian accounts agree with those here mentioned of the state of the seas and shores East of *Nova Zembla*: their tradition confirms that the broken ice floating along the coast, has not for 160 years hindered the poor inhabitants from using the Eastern sea as far as *Kolyma*, and from thence, since a number of years, to the strait of *Anian*, and the West shore of America.

Some

Some persons eluding the consequence of these facts, have maintained that the Cape between *Taimura* and *Chatanga*, running up to $77\frac{1}{2}$ degr. and beset with Ice, could never be doubled, and therefore the entrance from thence into the Polar sea was impossible: but the weakness of this allegation will appear in the sequel, as the truth is farther disclosed.

The Russians deservedly credited, because they relate facts plainly and circumstantially, tell us, that when their ships went to discover the state of the sea and coasts to the East and West of the *Lena*, *Protshintschew* doubled that same Cape (probably in the latit. of 80°) and got on to *Taimura*. The learned Prof. *Gmelin* has written an authentic account of the Voyage; and the ingenious Prof. *Muller*, unwilling to enter into discussion of facts, has only confirmed this particular, that no ice was seen by these ships, neither outward nor homeward bound. Reason plainly points out that it has been so: nothing is found to stop and fix it there; the waves, the winds, the current, will not suffer it to remain. Yet to the West of *Taimura* at 76 degr. latit. where a cape is described by the Russians, a pilot called *Tschalutschin* pretends to have seen a chain of islands united by sheets of ice which he considered as the production only of the former year: beyond that, however, he saw to the North a great open sea. How near to N. Zembla this ice was seen, is not material to discuss; admitting only that at 76° . he descried what others saw at $77\frac{1}{2}$, an additional proof is found, that the great sea to the North is open, and not full of ice; but allowing still that a few straggling flakes be there, as Capt. *Barents* says he found some, his evidence will then confirm, that the farther Eastward from *Nova Zembla* they went, the less ice was found.

Sup-

Supposing for once all the straits choaked up with ice and utterly impassable, nothing conclusive can thence be inferred against a near approach to the Pole; all agree that no ice is found at 20 or 30 leagues North of the coasts; what fixes there will not hurt the ships that keep 1° . or 2° . higher, as is recommended to them to do; the shoals will then become useful, as beacons to keep the unwary from shores, capes, and straits. An attentive Navigator will steer clear of ice, if in the wide space between *Spitzbergen* and *Nova Zembla* he sets his course 4 or 5 degrees (80 or 100 leagues) North East of the latter, running up in the same direction to 80 , 82 , and $83\frac{1}{2}$ degrees, as opportunity may offer. All fears of ice then ceasing, he will find himself at ease in a vast ocean, extending over all America to 250 degrees East longitude from London; and as to *Nova Zembla* from $77\frac{1}{2}$ to 90 degr. East latit. that is $12\frac{1}{2}$ degr. or 250 leagues—and from the coasts at 70 to 90 degr. latit. is 400 leagues; an immense main, where hitherto not an island, or any thing rising in the water, has been descried to obstruct navigation.

An invariably mild temperature of air, makes sojourning in those seas very healthy for crews upon discoveries. Captain *Phipps* found it so amidst towering masses of ice, which in common opinion impress a sharp sense of cold. The Anonymous Journal goes farther: it tells us, that about the 15th of July the heat was so great as to melt the tar in the seams of the ships—the same has happened before in that latitude, though it be uncommon between the Tropics, where the length of twelve hours night refreshes the air enough to prevent such effects. When this degree of heat came on, a thermometer from 56 degr. in the cabin, rose to 90 in the open air, and to 100 on the top of a mountain in *Marble Island*. The effects of this heat, and the danger

danger incurred where the ice accumulates, will appear from what follows. On the 1st of August, somewhat west of the Seven Islands, the ships were embayed in fields of ice. 2d August, the Pilots apprehensive of long detainment, became urgent for attempts to get out: Vigorous efforts were made to break and cut through; the flakes crowded on each other proved too thick for man to separate, and rendered the trial quite hopeless. It might have occurred, that the heat of the season would soon break down those masses and form a more enlarged moveable surface, that would, by force of wind and current, bear hard upon the ships; yet, that providing some fence against its effects, and relying on physical consequences, the ice must shortly disperse, and the ships be suddenly disengaged. Their reliance was not such, they had recourse to their own exertions, and attempted to get off with their boats, leaving the ships; but they made so little way over the ice, that they began to despair. On the 11th of August, the flakes broke, and an unexpected relief followed;—the next day they sailed to the harbour of *Smeerenberg*, a place of resort for the latest Whale Fishers, where overjoyed, they met again with some known vessels then returning to Europe.

It may here again be observed, relatively to the season, that it was the very time when in those seas, as in all others, the heat is greatest and most constant. Above two hundred years ago, the *Samoyedes* declared, that from thence for six weeks forward, no ice was seen in those very places where at other times it always was found.

Disease and sickness are not to be feared in those climates. Captain *Phipps* had none in his crew; the man who died was worn out by a consumptive disorder of long duration. Other accounts agreeing with his, form a happy contrast with those of

Sir

Sir Robert Harland's fleet, between Madras and the Cape of Good Hope, so lately as the year 1774: beside 160 dead, there were not less than 480 hands sick, as the public papers informed us. How desirable the route not liable to such distress! How agreeable the prospect in so healthy a state, to discover a passage in the latitude of 68 degr. from whence southward, no more than common incidents can be encountered, and to see a tedious voyage thus fortunately and considerably shortened!

From the meridian of London to the strait of *Anian*, or *Bebring*, the distance is no more than 180 degr. of longit. Let 200 be supposed, and the medium between 75 and 85 of latit. be taken at 80 degr. the produce will be less than 700 leagues of one hour each. *Lynschoten* in the lower sea, with a contrary wind, went fourteen leagues in twelve hours: stating the rate at one league in an hour, there will not be leagues enough to require thirty days sailing. The time proper for departure from home, hereafter to be spoken of, is now supposed early enough for setting out from Cape North in E. longit. 25°. on the eleventh of June, when all idle fears about ice must vanish, many travellers, as well as the *Samoyedes*, assuring it all gone before that time; then first subtracting these 25 degr. from the 200, or rather 90 leagues from the 700, there will remain 610; and reducing the number of 30 days by 4, the remainder will be 26, to be found in the good season, from that time to the middle of September and farther, a space which will afford 90 days, and surely must be sufficient to explore that whole sea, and to return at leisure after examining the several parts of the strait from the 67 to the 60 degr. of latitude, or to go on to Canton at option, without an obstacle either way, but the uncertain and insignificant meeting with flakes of ice.

To

To say much about provisions in healthy climates and roomy ships, must be deemed superfluous. Victualling is now so well understood, that bad provisions are not received on board private vessels, but by neglect of duty: and where abundant space is not taken up with guns and ammunition, there must be in ships fitted out for discoveries, room enough for water, which keeps better in those seas than in others, and can occasionally be replaced by ice when met with, as many Navigators beside Captain Phipps report has been usefully done.

If it be certain that Captain *Cook*, conveying *Omiab* home to *Otabeite*, intends to explore the West coast of America, up into the Strait leading to the North Sea, an accurate description of that part will certainly be obtained.—If, as others surmise, some ships are to be sent from Europe to Canton, thence to attempt the passage upward, perhaps to 68 degr. or thro' the Straits of *Bebring*; it is apprehended an undertaking of that kind would not answer the expected end.—To multiply hazards by the wear, tear, and great expence of a voyage to China, there, perhaps, to complete a crew, renew ships stores, careen bottoms, in order to begin discoveries, by the South and West of Japan, up to the North, is at a dear rate to procure some information, only to be had at a season when prejudice and accident will strongly operate against zealous endeavours; and, after all, to have as long a voyage home to Europe, whilst no approach to the Pole, no shortening stretch through the Polar Seas to the North Cape of Europe, forms a part of the design; must appear upon the whole a very unadvisable enterprise.

Rational plans well conducted bear the best prospect of success, and have with them the chance of fortunate events. The experience of an able Navigator, and the knowledge of a Man

of Study, are equally requisite to form them. The Navigator, versed in what belongs to equipments, is expert in managing such matters, and knows how to conduct an enterprise to advantage—he can cautiously tread new paths through unknown seas—is able to bring Astronomy in aid of other useful means, and by practice and observation can discriminately avoid what others have split upon. The Man of Learning proposes what is useful and profitable, what has not yet been done, and accounts for failures in what has been attempted—he sketches out the road to new discoveries; points out where danger may exist, and where not; solves what is problematical in natural philosophy, and accounts for phænomena which disconcert persons unacquainted with cosmography: he shows how to explore unfrequented regions, divested of prejudice: and he benefits the world with many improvements made or related by other Men of Letters, with whom he interchanges information on all useful and curious subjects—Such different abilities combined, unite sound theory with consummate experience—How to be availed of both in one enterprise may be a question?—The two accomplished men can perhaps not be sent out together—neither will do alone; the execution would be deficient—yet it is possible to find a person in whom both are or can be conjoined. Among the able Navigators this kingdom can boast of, some are possessed, others ready to be availed of what the Philosopher is willing to impart, from studies which in younger years the Mariner's attachment to the practice of his profession, has not allowed him to acquire. This sort of knowledge, fitted to his experience, must open to him the fairest field of success, remove all apprehension of disastrous events that can be foreseen, and leave him liable to such casualties only as human prudence cannot prevent.

To

To form a system of the present pursuit, it is necessary, among other points, to determine the place and time of departure, and the course to be held; it is essential also, clearly to state what is to be observed by way of prevention against future miscarriage.

Previous to these discussions, it is of moment to remove some opinions, which unconfuted might operate against what is hereafter laid down. Mr. *Dobbs* in 1746 was earnest and successful in promoting the belief that a passage by the North West was practicable. Disproving his reasons may serve to establish useful truths.

1°. He takes for granted, from former accounts, destitute of proofs, that the passage was once made through *Hudson's Bay*, from 66½ degr. upward by an opening into a wide boundless ocean.

Not to waste words in arguing against what never happened, it will suffice to say that his own experience destroyed his assertion: after the most diligent search, and unwearied attempts, no opening was discovered, no passage was made. Capt. *Ellis* owned it, some years since, to a person of note at Leghorn—said he believed it practicable in two other parts—yet apprehended little use would be made of it when found.

It may be alledged in support of the assertion, that Capt. *Cluny* did afterwards find this passage; but that is also meer matter of belief: he worked through a deal of ice, and perhaps only got farther on the Continent: that those who best can come at truth are not convinced, appears certain from the renewal of the offer of reward. But supposing a passage found, what purpose can it possibly answer in that quarter? it will only lead into an immensity of ice from which a ship cannot be disentangled. The reader must often be reminded, that all the ice from the East, is crowded and shelved upon the West quarter. *Hudson's Strait* can hardly be

got through after the middle of July ; and the Bay is not used after August, without great danger from the huge, floating masses. Supposing the strait never filled with ice, vessels going through it might in September get to the Northern coast of America, and then not know where to winter. So affrighting a situation does not exist in the search of a North East passage ; the least extent of open sea is of 15 degr. breadth between *Spitzbergen* and *Nova Zembla* ; ships cannot be blocked up there, and if a harbour were wanted, enough would be found.

2°. The account of *De Fonte*, another prop to Mr. Dobbs's assertion, is a narrative stamped with the character of fiction that never met with credit from men of knowledge. *Don Antonio d'Ulloa*, that learned man and great navigator, now commanding the Spanish fleet to Vera Cruz, was taken by the English returning to Spain in a French ship ; was brought up to London despoiled of all he had, but was received with regard, and treated with generosity : he had leave to take from the papers of the ship, deposited in the Admiralty-House, what he liked to reclaim : he took only such as were in his own hand writing, leaving many curious astronomical observations, and physical and geographical remarks : among the papers of little estimation he left the original account of the voyage of that *De Fonte*, who commanded one of the cruising vessels employed in the South Sea : he was sent in it by the Viceroy upon a discovery, and all he brought back was an uninteresting journal, and a declaration that he found not the least appearance of a passage beyond *California* ; with this vague answer his attempt ended. *Don Ulloa* repeated this to credible persons, with so many circumstances rendring the notion of any discovery then made, too absurd to leave a doubt with unprejudiced enquirers.

The

The better route for a Passage proposed by the North East, would long ere now have been found, had not that unfortunate prejudice of endless ice fettered people's understanding: during the space of a century, in which that notion has prevailed, every attempt made, has served to prove it false: a few remarks will plainly evince this.

1°. All the charts of *Spitsbergen* published since a hundred years, and allowed to be authentic, show the East coast of that cluster of islands between 77 and 80 degr. (or more) of latit. as accurately delineated, as any European islands. The most Eastern point is called *Disco*, about 30 degr. E. longit. In the space to the South is written *Whale-Fishery*; a designation conveying the idea that whales were in greater plenty or easier caught there, for a length of time, than nearer the coast of Greenland: but a multitude of small islands and banks to the S. East from 20 to 28 degr. longit. with intervals generally filled with ice (common in that part) have given cause, from vessels getting among them and being locked up, to remove the fishery, and discommend the East part as unsafe: an instance of no older date than 1769, will confirm this supposition. The Surgeon of a whale-fishing vessel belonging to Bremen, reported, on a particular enquiry, that they got among islands and banks S. E. of *Spitsbergen*, farther than they intended, and were locked in for three or four weeks; that getting loose again, they run away N. West to *Greenland*, as far as 80 degr. latit. and upwards, resolved never to return to that spot again. Running affrighted from danger, seldom directs the steps to the place of real safety:—the hazard Westward is known, and may prudently be avoided: in attempts to higher degrees of latitude, a course bent nearly N. N. East from 76° latitude will clear a ship from most of the dangers to which she would be exposed on the western side, and in the strait between Old *Greenland* and *Spitsbergen*,

gen, where many ships are lost. It is an advantage, that in the charts above spoken of, the capes, bays, and straits, that called *Waygat*, and other East parts of *Spitsbergen*, up to 81 and 82° lat. including the Seven Islands, and the *Rykisse* Islands, are laid down with that precision which denote them very accessible.

2°. The narrative of the Russian sailors cast on a desert island of East *Spitsbergen*, written by Professor *Le Roy* at *Petersburg*, and published in English first in 1774, bears all possible marks of authenticity. It speaks of *Maloy Broun*, or *East Spitsbergen*, distinctively from *Bolschoy Broun*, the *great Broun*, or proper *Spitsbergen*, seated between $77^{\circ} 25'$ and $78^{\circ} 45'$ pointing that out as a place of resort for the Russians to take seals and manaties, found there in abundance: Which nearly agrees with the spot here above described.

This island, so well traced out, breaks the imaginary projecting bar of ice placed there to frighten all but Russian mariners, who, though neither regularly instructed nor bold, find their way thither frequently. What they do with difficulty, our Navigators may do with ease: if they mean to know the locality, there will be no obstacle to their descrying *Disco*, and the state of the fishery near it; then the *Seven Islands*, after *Rykisse* and *Maloy Broun*, without keeping Westward for fear of too much lee-way, but steering North East from 34 to 80 and more degrees of longitude, and to 83 or 84 degr. latitude, a pleasant course will be traced out, and the Polar Sea enough explored for the choice of a track to the Russian Strait.

3°. The original drawing of the Chart of Captain *Gilles*, noted for his discoveries to the East of *Spitsbergen* in 1707, is still in the hands of the *Hollanders*, who intend to make it public: the Dutch Navigators who have seen it, hold the opinion that voyages to the East in high latitudes may be made without danger.

A belief of so much practicability in enterprises of such moment as these, must naturally start the question, why those able men
do

do not avail themselves of that persuasion? Two reasons may be given why no individuals of that nation are benefited by it. The spirit and desire for discoveries and extension of commerce, are crushed and kept under by the cruel usage given to the owners of the two ships above spoken of; indefatigable pains, great expence, and good success, were rewarded with oppression and disgrace: they were brow-beaten till they abandoned the pursuit. Where the love of immediate profit reigns, men do not look far; the private interest of all people in the whale-fishery admits of no more than going through that business with expedition, and making the most of a voyage. Such cramps to exertion admit of no more than keeping the subject alive. A Captain in the Dutch navy has with uncommon industry collected a number of relations from Mariners subjects of that Republic, containing proofs of several facts here related, and of others not yet reduced to order: unfortunately recourse cannot be had to them at present, the Officer being out on a cruize with some men of war.

The rationality of conducting enterprises for discovering a passage preferably by the North East, being thus established from facts; the same kind of argument, with the strictest attention to prudence, will point out the surest method of approaching the North Pole.

The instances of Navigators who have reached high Northern latitudes, collected and published by the Hon. Daines Barrington, throw much light upon the subject: the proofs bear that degree of authenticity which removes all doubt; yet his candour is so great as still to offer the means of ascertaining facts to the incredulous. In that collection are undoubted instances of approaches to the Pole so near as 87 degr. some without meeting with much, others without any embarrassment from ice; that circumstance always depends upon the course held: and it is
remarkable,

remarkable, that those useful facts were produced in the common course of events, not in pursuit of the great discoveries aimed at by others. The sequel of the work offers a fair field of physical arguments to support those already adduced, against the prejudiced opinion which has proved so baneful to many of our Navigators.

Men of philosophical knowledge agree that ice, wherever formed, is composed of no other than fresh water, which at the time of congelation was in contact with something more solid, to which it did adhere—That the quantity seen in large flakes, great masses, and shoals, about *Nova Zembla*, *Spitzbergen*, *Greenland*, *Hudson's Straits*, and other parts, comes from the rivers of Asia, running into the North Sea, the *Lena*, the *Oby*, and others of equal or less note; and of more rivers also flowing into it from the Continent of America, but too little known to be found in any map.

The ice formed in winter breaks loose in milder or in stormy weather, and is driven to sea, where perhaps it joins some older masses floating, and not yet reduced. Accounts sufficiently to be relied on, and simple experiments inform us, that sea water is warmer than fresh water, that its warmth is augmented by attrition in proportion to the degree of agitation, as Captain Phipps also affirms†; and that ice is dissolved in it, not only in its flaky state, but in a concreted state it is so much melted down under water, that the higher masses overset, break down, and from narrower bounds are forced out and spread, as at the end of summer from the Straits of *Frobisher*, about 63 degr. latit. they are said to cover a surface of ten leagues, and are soon after so effectually destroyed that scarce a vestige of them remains: thus the sea between
Hudson's

† An Experiment made by Dr. *Irving*, proved, that below the surface, sea water strongly agitated, was warmer than the atmospheric air.

Hudson's Strait, the coast of Norway, and that of Greenland, from 70 to 74 degr. are either full, or in some measure free, according to season and circumstances—whilst in a much lower degree of latitude, at 50, the river of *St. Laurence* likewise forms and floats to sea large masses, which speedily share the same fate.

An undoubted fact strengthens this argument. The shoals of ice coming from the East, bring with them a prodigious quantity of timber, which surely does not grow at or near the sea-side, but is detached from the banks of rivers, whose rapid currents loosen and float away such quantities as form heaps upon the North coasts of Asia, and to the East side of *Jan Mayen's island*, into two bays, thence called the *Bays of Wood*, so filled, that whole ship loads might be had when freed from the conveying ice. *Crantz*, the only writer who has exactly described Greenland, accounts it a kind dispensation of Providence, that the inclement vehicle brings thither a plentiful supply of a most essential article, in the want of which the inhabitants would be greatly distressed. All authors agree that this timber comes from the Asiatic and American rivers, and *Crantz* confirms the opinion with a most convincing fact.

The floated trees, by common accounts, are pines, firs, larches, and of such kinds growing in those two quarters of the globe, and never coming from the East coast of America, whence they would be blended with oaks growing there in plenty, but not seen among those above named, the sorts of which soon become distinguishable, after they get aground and free of ice.

A question now naturally arises; whence come these very great masses so strangely shaped, of a larger size than can float out of a river, since one of them having an arch of forty feet high, offered room enough for a vessel to pass through it, to join

D

the

the ships of Captain Phipps, in 1773 : and the ice not in heaps shewed fields of many leagues extent.

The answer to that, flows from the known fact, that the flakes coming from the East, are caught, stopped, and held by every solid projecting body, headlands, shores, or by other pieces of ice. When thus stopped, the following are shoved against and lifted upon them, by the currents and waves, which, when strongly agitated, will heap them upon each other, and by various efforts raise and force them into odd shaped *Ysbergs* and those huge masses just spoken of; whilst the thinner ice from the shallows, need only join to form the largest fields. Thus variously shaped, the coasts and islands facing the East are covered with them, the passages and straits are filled, and what stops near shores often encompasses ships, blocking them up in a very critical state: Captain Phipps was thus detained for ten days in August, and convinced no passage to the Pole could be found that way. The East becomes clear, by loading the West coasts: no ice is seen between *Deerfield* and *Moffen Island*, or to the East and North of these, but small flakes that float to and fro where no land is near, either coming over from the American rivers, or loosened and driven by strong Southerly winds from lower shores. The instances adduced by Mr. Barrington make these progressive positions very certain; especially the testimony of Captain *Cluny*, who in a map prefixed to his *American Traveller*, printed at London in 1769, points out places of remarkable events; one of which at $79\frac{1}{2}$ degr. N. latit. is thus related, *here the Traveller was shipwrecked in 1746*: and another at $82\frac{1}{2}$ degr. is in these words, *here the Traveller has been, and saw neither land nor ice*. To add somewhat to this part of Captain Cluny's account, a circumstance that otherwise might be lost, must here be recorded.

A gentleman who saw the Captain in August, 1769, asked him some questions about the book just published, particularly the following:—"Quer. 1. Is every thing traced on the map exactly conformable to truth? He answered, yes; he could prove every particular by his journal.—Quer. 2. Why did he not go forward to the Pole, when neither ice nor land appeared to obstruct him?—He said, he had indeed no reason to apprehend such obstacles, being persuaded the Polar Sea was free and open; but having no other ship with him, he could receive no assistance in any unforeseen distress proceeding from causes of prejudice or accident, which he must lie open to in a totally unknown navigation; and therefore thought it prudent to venture no farther."

The Captain died in the beginning of 1770: his manuscripts and papers are straying, but greatly worth the trouble of being recovered.

Such facts and proofs as these, support the confident assertion, that in the highest latitude no embarrassment of ice is to be feared.

Nevertheless, as it may still be urged, that danger subsists between the Northern latitude of 79 and 81 degr. admitting some from hard gales, irregular currents, and accidental occurrences, we do not allow so much as other voyages are liable to, for the length of night between the Tropics is productive of unfortunate incidents not heard of where day light is continual. The greatest hazard proceeds from the effects of prejudice: if a Navigator allows himself to be guided by a Whale-fisher's Pilot, he will be led into the ice, and must there take his chance: but if he will choose a tract unknown to them, leading immediately to safety, he will find little ice in his way, and but a small part of it where he need exert himself; the approach to ice is foretold

by distant fogs, or by its blink and glare: the course Eastward is always freest, and the weather is regularly progressive with the season.

There is, in appearance only, a considerable quantity of ice sent forward by that common current from the East, which prevails all over the globe without interrupting particular local currents. The spreading of that ice over many coasts and seas, has led to conclude, that the greater sea whence it comes, does still contain more. The inference is not just; a constant expence, from a temporary supply, does not argue a remaining store. It is a certain fact, that at the season when the ice is most driven about, none is forming any where. Mr. *Steller*, one of the learned men sent from Petersburg to *Kamtschatka*, and who took great pains to acquire information about a variety of matters, imagined, that the necessary effect of the common current driving so much ice forward against the Western coasts, particularly of Greenland, must be to shelve and force it up to such enlarged masses as would never melt, when out of the reach of the sea water: but the event could not confirm his conjecture. The most consolidated piles wear down, and as much ice is melted and destroyed at one part of the year, as is produced at another.

The common current from the East is strong and rapid in those seas, and from many facts, will appear so likewise in other parts of the globe, subject only to some local variations, as has above been said. It will therefore be conceived to have the most powerful effect upon ice, when in a short space of time it forces great quantities forward into open spaces so rapidly as to crush, break, and destroy them to prevent an endless accumulation.

It is now the place, after what has been premised of the nature of the voyage, to determine the time most proper for ships to set out upon discoveries. Were not a long continued night of dark-

ness

ness a deterring obstacle beyond duration, the ships might get into the North Seas early in the season, and be fully availed of what the *Samoyedes* declare ; and in that way, to prevent what has been apprehended, there would be but little objection to begin an expedition toward the end of our common winter months.—Why it is thought eligible to depart no sooner than June, is not easily understood : the ships for whale-fishing, going to the worst parts for ice, set out in April, and often get back in May and June, when our Discoverers are preparing for a voyage, where every step is to be considered and noted : supposing them convinced and resolved to seek the promising track North Eastward, their knowledge as able navigators, must tell them they are losing the time of advantageously entering the ocean where the grand design is to be executed. The Russians stay for no season to go to *Maloy Broun*. Merchant ships sent to *Archangel*, go early enough to leave the North Cape of Europe at 71 degr. in the month of June. Why should not the ships fitted out for discoveries do the same, proceed to that *Maloy Broun*, which is East Spitsbergen, between 78 and 79 degr. and thence get farther on into a roomy sea and fine weather ? Apprehensions that might operate at other times, cannot intimidate in June, when it is vouched by the *Samoyedes* and other accounts, that ice disappears, that any then still floating must soon be destroyed, that the lower seas, the rivers, and other fresh waters are then free ; and when the fairest prospect opens for the discovery of a passage that can then still be explored as far as Japan and China. Should any seeds of fear remain, to shoot out upon emergencies, or to branch out unfavourably as with Captain *Cluny* ; their growth may be prevented by means of an association for keeping two or more ships together in aid and countenance of each other, and for the farther advantage of enlarged Discoveries.

Capt.

Capt. *Wood* was active in spreading the erroneous belief, that one continued field of ice filled the vast space between Greenland, Spitsbergen, Nova Zembla, and the Pole; but did not set forth the doctrine systematically; he gave with it a fact flatly contradictory: he related that on the 22d of June at $75^{\circ} 59'$ N. latit. he was without ice, having seen only some flakes at the distance of a league; and that on the 29th he was shipwrecked in floating ice which violently beat his ship against rocks, upon which he split, and from whence he soon got on shore. Admiral *Heemskerke* and Captain *Barents* explored the West part about Nova Zembla from 70 degr. to $77^{\circ} 20'$. then coasted along the East side of it; and at last sailed to the North point at 76 degr. latit. where the Admiral wintered, and always had some floating ice.

To sum up the argument about the vague opinion of frozen seas and continents of ice, let it be stated from reason and facts, that the Northern coasts, especially those facing the East, are loaded with ice, to the extent of 20, 30, and more leagues; but that from thence, particularly Eastward, and in higher latitudes, the idea of obstructions from ice, cannot be admitted. Those who may be persuaded to go up N. Eastward from 79 to 84° latit. will be convinced there is none to hurt them in that direction and in those parts.

The mode of conducting the voyage for the discovery of a passage by the N. East, is now to be offered, as most feasible. It has already been said that the enterprize need only be spoken of, at the setting out from the North Cape above Lapland at 71° latit. From thence it is advisable to stretch due North to 73° lat. and there to set the first course at North East by East for a run of 1000 miles, up between N. Zembla and Spitsbergen, to $83\frac{1}{2}^{\circ}$ lat. and $92\frac{1}{2}^{\circ}$ E. longit. where it is proposed to set the
second

second course South East for 1500 miles upon the rhomb line leading directly to the opening of the *straits of Bebring and Anian*, at 68° or 70° lat. and 182 com. longit. where an opening from 150 to 200 leag. wide, allows an easy admission into a passage which narrows at 66° , and then widens again, to offer the pleasing prospect of a mild Southern sea, in amends for the over-rated Northern colds.

This endeavour of uniting the European with the Asiatic traces in search of a passage into the Pacific Ocean, and the attempt nearly to approach the N. Pole, may in point of prudence, for the first undertakings, be regarded as separate objects, and kept distinct, lest the incidents to which the one is subject, should prove subversive of the success due to the other: for although the Polar Ocean appears smooth, pleasant, and not dangerous, yet the undecided effects of magnetism, the uncertainty of courses to be changed every moment where the meridians so nearly converge, and some other dubious points, are circumstances every instant to be considered in that attempt, and little connected with the enterprise to find out the passage; whilst the particulars of the latter, especially the practical knowledge of setting the course between 83° and 84° in various longitudes, with so much certainty as to reach the strait or other intended place, will afford great facility to the former, beside fixing sure points whence to start, and where to return. It is therefore to be hoped that the approach to the Pole will not precipitately be attempted, till the discovery of the East passage has been pursued and accomplished.

How next, discriminately to guide the steps of adventurers from the above 66° lat. forward thro' the strait of *Bebring*, is what the most recent charts, even those of 1773, do least allow to point

point out : information is indeed little wanted where danger does not exist : yet somewhat must and can be learnt from a comparison between the new and the old delineations, sufficient to distinguish an apparently true situation from that drawn by fancy and credulity.

The alterations in the modern maps expunge the track of the *Tzschutski*, inhabiting the N. East part of Asia below Cape *Schlaginskoy* ; of the Navigator *Deschnew*, and others ; likewise those of *Behring* and *Tschirikow* : no notice is taken of those of the Spaniards, and nothing authentic is introduced to fill up the chasm, or to account for the suppression.

Some of those above named speak of two or three small islands found between 65 and 67 degr. latit. where others describe one of a considerable magnitude : but all the old agree when speaking of the E. and W. continents, they believe them at an inconsiderable distance from each other.

Those who consult foreign maps, or compare them with others, must advert that their first meridian is generally that of the island of *Ferro*, the most Western of the Canaries, differing from ours nearly $17^{\circ} 35'$ which subtracted from their longitude, shews in our maps the spot corresponding with theirs.

The new charts delineate in these straits a large island called *Alaschka*, about 80 leagues in length : to the North East of this, five smaller are placed ; South of it are eight more ; and to the South West is an Archipelago, rated at seventy islands and more, reaching down as low as 57° degr. but without name or time of discovery : all this bears so little of the look of truth, and is so unlike the notion Behring conveys of these straits, that no credit can be given to it, no more than to the very great distance they fancy at the narrow part between *Kamtschatka* and America ; which is erroneous, for the following reasons.

The

The great distance of the two coasts is contradicted by all Spanish and other maps of some standing and repute. The learned Mr. *Steller*, very exact as to facts, says, that in one particular place the American shore is not farther distant than four or five leagues from that of Asia. The attempts now making by order of the king of Spain, will probably, ere long, produce a concurrent testimony and description of that part which is already entered, according to very recent information, of which a translation shall here be added to corroborate the opinion, and to confirm the account published in 1774, by Mr. *Stæblin*, Secretary of the Imperial Academy of Sciences at Petersburg. Beside all this, some immediate proof may be led from conclusive arguments.

The Spaniards trace on the West coast of America nearly at 60 degr. latit. what they call the *grandes Corrientes*, meaning the great and rapid river. The *Tzchutski* report, by tradition, from their neighbours the Americans, that somewhat S. East of their southermost Cape, was situated the large river that floated down the great trees, roots, earth and all; pines, larches, firs, and such like. It will be allowed that river must run down a great way through the country to become so large as to loosen such great bodies, and so rapid as to drive them forward impetuously into and through part of the sea, to send them over to the *Kamtshadales* near the island of *Karaga*, who tell us they have not of their own growth that sort of wood thus conveyed to them in spring with the ice, as they believe, in the space of twice or thrice 24 hours, from the time it breaks forth from the river. That length of time is not more than what is required to force it across a passage of a few leagues breadth; which proves as much for the strength of the current, as for the nearness of the shores; and this singular cir-

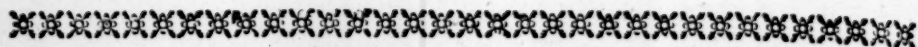
cumstance gives it weight, that the two nations who relate the fact know little of each other and speak different languages. The mouth of that river which brings down its water 60 or 70 leagues through the country, opens in such a direction as to convey its floating masses immediately to *Karaga*, situated on the Asiatic side, nearly at 58 degr. latit. and 178 degr. E. longit. by the best computation. The Russians make it but 170 degr. a difference of 480 miles, which would too much enhance the rapidity of the current conveying it thither in that short space of time. Whatever allowance be made, the result will always show that the river is not distant, and therefore the coast not more so from Asia. Decisive traces are generally wanting to conciliate the different opinions of Map-makers. Some in this instance omit the great river, and fix *Karaginskoy otrow* at 179 degr. longit. and 58 latit. The nearest American coast above *Mount St. Eliab* with them is at 60 degr. latit. and 233 longit, and that opposite to *Karaga* at 235 degr. from whence opening to the S. E. and S. W. as far as the Southern point of *Kamschatka*, in the same latitude, they offer not less than 65 degr. of distance; a position directly contrary to what has ever been stated, or can any way be granted.

From all information possibly obtained it may be laid down as certain, that these straits are practicable without danger, from the entrance at 68 or 70 degr. down to 52 degr. where *Kamschatka*, ends: that, proceeding without obstruction, the string of islands called *Kuriles* being descried; and their true bearing fixed; it will then be easy to sail by the South of Japan to Canton in China; from whence it is hoped the ships who have performed the voyage, will return in the same track to confirm the ease found, or the precautions used thro' the whole navigation. Some means it is likely, will also be found to explore the coast of
America

America from the narrowest part of the strait up to the opening at *Stachtan Nitada*, about 68 or 70 degr. the late Spanish attempts leading directly to it.

What has above been offered for serious consideration, must now be concluded with the following information, that the coast of Asia cannot be trusted to for provisions, none being obtainable in that part. When Peter the Great issued out the most positive orders for victualling and providing necessary stores to the ships of Behring's first expedition, much time, pains, and money, were spent to obey them ; and at last the things provided were such, as the Samoyedes themselves would have been ashamed of. Father Du Halde, who relates the matter at large, may be consulted about the particulars.

Short



Short Account of some Voyages made by order of the King of Spain, to discover the State of the West American Coast from California upward. Dated Madrid, 24 March, 1776.

THE spirited attempts made in compliance with his Catholic Majesty's commands arising from the laudable intention of spreading the knowledge of the Gospel to the utmost bounds of his extensive empire, especially those directed to the remote parts of the Continent North of California, where the inhabitants are still supposed immersed in the darkness of Paganism; and the steady endeavours for a happy event, having in some measure been attended with success, in two expeditions made in the years 1769 and 1770, one by land, the other by sea; the harbour of *Monterey* having been discovered in latit. $36^{\circ}.40'$. and a Court of Presidency, with a missionary delegation, being established there, under the patronage of *St. Charles*: His Majesty in pursuance of the pious design, ordered a second expedition thither in 1774, with the frigate *Santjago*, commanded by *Don Juan Perez*, who explored that coast up to $55^{\circ}.49'$. latit. and landing there found a civilised people, well-looking, and accustomed to wear clothes. The fortunate event of that voyage has farther induced his

his Catholic Majesty, to send to Port *Sanblas*, in New Galicia, some officers of the Navy, directed thence to extend that navigation, and carry on the discovery as far as possible. In obedience to the injunction, a new expedition took place and three ships were sent out. *Don Bruno d'Aceta* commanding the *Santjago*, and *Don Juan Francisco de la Bordega* in the *Senora*, sailed from the harbour of *Sanblas* in the beginning of 1775, at the same time that *Don Juan d' Ayala*, in the *St. Charles*, set sail for *Monterey*. The first proceeded as far as 50° latit. the second got up to 58° . and the third went only to $37^{\circ} 42'$.† Each of the commanders explored the intermediate coast, between the lower and the higher degree of latitude—inspected the great harbour of *St. Francis*, and attentively examined the gulphs, bays, and rivers of those parts, which they found inhabited by natives of a very mild and sociable disposition. The good success of this enterprise is chiefly owing to the wise direction of *Don Antonio Maria Bucarelli*, Viceroy of New Spain, and to the zeal he has always shewn for the honour of the service and the execution of his Majesty's great designs. The favourable report this Viceroy has made of the steady and intelligent conduct of the commanders, officers and pilots, through the course of the expedition, has given his Catholic Majesty a fresh opportunity of bestowing favour upon merit and services: these navigators and mariners have been honoured severally with a degree of rank above the station in which they went out.

† Possibly the true site of *Monterey*, in former estimations placed at 39° and 40° latit.

ERRATUM. p. 16. L. ii. for *Hudson's straits*, read *the several straits*.

